



Infrastructure, environment, facilities

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Subject

Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site  
Time-Critical Removal Action – Former Plainwell Impoundment  
Monthly Report (October 2008)

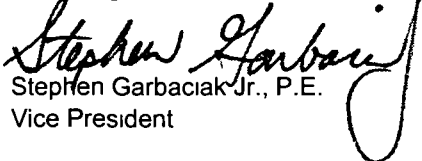
Dear Mike.

Attached is the 20<sup>th</sup> monthly progress report for the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Time-Critical Removal Action (TCRA). This progress report is submitted in accordance with Section 19A of the February 2007 Administrative Settlement Agreement and Order on Consent (AOC) for Removal Action (Docket No. V-W-07-C-863)

If you have any questions, please do not hesitate to contact me.

Sincerely,

ARCADIS

  
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Vice President

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November 17, 2008

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**MONTHLY REPORT FOR THE ALLIED PAPER, INC./PORTAGE CREEK/  
KALAMAZOO RIVER SUPERFUND SITE  
TIME-CRITICAL REMOVAL ACTION – FORMER PLAINWELL IMPOUNDMENT**

**REPORT #20, OCTOBER 2008**

**PREPARED BY ARCADIS  
NOVEMBER 17, 2008**

**ON BEHALF OF THE KALAMAZOO RIVER STUDY GROUP**

**SUBMITTED TO**

**MICHAEL RIBORDY, ON-SCENE COORDINATOR  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**Monthly Report for the Allied Paper, Inc./Portage Creek/  
Kalamazoo River Superfund Site TCRA – Former Plainwell Impoundment**

**REPORT #20, OCTOBER 2008**

**Significant Developments and Activities During the Period**

- On October 1, the Michigan Department of Environmental Quality (MDEQ) confirmed that due to the unusual conditions at the TCRA site (flood event), the carbon used in the water treatment facility at Staging Area 5S did not need to be removed after polychlorinated biphenyls (PCBs) were detected in the mid-point samples collected during the week of September 15.
- On October 1, the Kalamazoo River Study Group (KRSG) submitted the 64<sup>th</sup> and 65<sup>th</sup> *Weekly Construction Report for the Plainwell TCRA* to the United States Environmental Protection Agency (USEPA) and MDEQ.
- On October 3, the KRSG submitted the 66<sup>th</sup> *Weekly Construction Report for the Plainwell TCRA* to USEPA and MDEQ.
- On October 6, the KRSG received a copy of MDEQ's September 2008 *Former Plainwell Impoundment Sampling Plan*.
- On October 6, MDEQ collected twelve sediment samples from the north side of Mid-Channel Area A after excavation activities in that area were completed.
- On October 6, 13, and 28, the KRSG received copies of analytical data for split samples collected by USEPA.
- On October 7, 9, and 25, the KRSG submitted copies of analytical data from TCRA sampling activities to USEPA.
- On October 8, representatives of USEPA, MDEQ, and Michigan Department of Natural Resources attended a tour of the Plainwell TCRA
- On October 8, USEPA submitted to the KRSG a letter titled *Modification to Former Plainwell Impoundment Time-Critical Removal Action Design Report to Address Underground Utility Lines* to summarize the agreement regarding the utility line crossing.
- On October 13, the KRSG submitted the 67<sup>th</sup> *Weekly Construction Report for the Plainwell TCRA* to USEPA and MDEQ.
- During the weeks of October 13 and 20, MDEQ was onsite to collect soil samples from locations identified by MDEQ in September. Samples were collected throughout the project area, both in excavated areas and in floodplain areas outside the scope of the TCRA.

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- On October 14, the KRSG provided comments to USEPA and MDEQ regarding MDEQ's September 2008 *Former Plainwell Impoundment Sampling Plan*.
- On October 15, the KRSG submitted the 19<sup>th</sup> *Monthly Report for the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site TCRA* for September 2008 to USEPA.
- On October 15, USEPA collected three samples from the sand bar that formed downstream of the spillway during the September 2008 flood event.
- On October 20, the KRSG submitted the 68<sup>th</sup> *Weekly Construction Report for the Plainwell TCRA* to USEPA and MDEQ.
- On October 22, USEPA submitted to the KRSG analytical results from the three samples collected on October 15 from the sand bar located downstream of the spillway.
- On October 23, MDEQ submitted to the KRSG and USEPA analytical results for the twelve sediment samples collected on October 6 from the north side of Mid-Channel Area A.
- On October 27, the KRSG submitted the 69<sup>th</sup> *Weekly Construction Report for the Plainwell TCRA* to USEPA and MDEQ.

**Data Collected and Field Activities Conducted During the Period**

- During the week of October 1, the KRSG continued excavation of Removal Area 13B and the Phase 2 Cofferdam Area, continued developing access in the Phase 2 Cofferdam Area, continued re-alignment of the wing walls in Mid-Channel Area A, and continued operating the Water Control Structure (WCS). Two surface water samples (TS30083 and TS30084) were collected from locations 300 feet downstream and 200 feet upstream, respectively, of Mid-Channel Area A for PCB analysis. A rinse blank (TS30085) was also collected. Wastewater samples W\_SA5S\_Influ\_0019, W\_SA5S\_MidA\_0017, W\_SA5S\_MidB\_0016, W\_SA5S\_EffluA\_0017, W\_SA5S\_EffluB\_0016, and W\_SA5S\_Dup\_0008 were collected from the water treatment facility located at Staging Area 5S. Table A summarizes the samples collected. Solidified non-TSCA material from the staging areas was loaded into trucks and transported to the Ottawa County Farms Landfill in Coopersville, Michigan or the C&C Landfill in Marshall, Michigan for disposal; solidified TSCA material was transported to the Wayne County Landfill in Bellevue, Michigan for disposal.
- During the week of October 6, the KRSG continued excavation of Removal Areas 13A and 13B, Mid-Channel Area A, and the Phase 2 Cofferdam Area, continued restoration activities in Removal Areas 11A, 12A, and Upland Area 12A1, continued developing access in the Phase 2 Cofferdam Area, and continued operating the WCS. Seven soil samples (TS20212 and TS20214 through TS20219) and one duplicate sample (TS20213) were collected from Removal Area 13B. The USEPA collected a

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split sample of TS20215 (APS-10108-43-SD/TS20215). Two surface water samples (TS30086 and TS30087) were collected from locations 300 feet downstream and 200 feet upstream, respectively, of Mid-Channel Area A for PCB analysis. A rinse blank (TS30088) was also collected. PCB wipe sample VT-67 (100908) was collected from the vacuum truck used to remove spent carbon from the water treatment system located at Staging Area 5S. Table A summarizes the samples collected. Solidified non-TSCA material from the staging areas was loaded into trucks and transported to the Ottawa County Farms Landfill in Coopersville, Michigan or the C&C Landfill in Marshall, Michigan for disposal; solidified TSCA material was transported to the Wayne County Landfill in Bellevue, Michigan for disposal.

- During the week of October 13, the KRSG continued excavation of Removal Areas 13A and 13B, continued restoration activities in Removal Areas 11A, 12A and 13B, continued installation of topsoil and seeding in newly exposed floodplain soils due to falling river elevations, continued developing access in the Phase 2 Cofferdam Area, began installing trees and shrubs that had been deferred from the spring to the fall due to species availability, began decommissioning and removal of Staging Area 5S, began removal and decontamination of resuspension controls, and began removal of the WCS. Fourteen soil samples (TS20220 through TS20232 and TS20234) and one duplicate sample (TS20233) were collected from Removal Areas 13A and 13B. Two surface water samples (TS30092 and TS30090) were collected from locations 300 feet downstream and 200 feet upstream, respectively, of Removal Area 13A for PCB analysis. A rinse blank (TS30091) and duplicate (TS30089) were also collected. PCB wipe samples Frac255870 (101708) and Frac253813 (101808) were collected from tanks used to hold untreated water at Staging Area 5S, and wipe sample VT-1 (101808) was collected from the vacuum truck used to transport untreated water from Staging Area 5S to Staging Area 4N for treatment. One set of wastewater samples (W\_SA4N\_X\_0019) was collected from the water treatment system located at Staging Area 4N. Each set of wastewater samples consists of one influent (e.g., W\_SA4N\_Influ\_0019), two mid-point (e.g., W\_SA4N\_MidA\_0019 and W\_SA4N\_MidB\_0019), and two effluent samples (e.g., W\_SA4N\_EffluA\_0019 and W\_SA4N\_EffluB\_0019). Wastewater samples W\_SA5S\_Influ\_0020, W\_SA5S\_MidA\_0017, and W\_SA5S\_EffluA\_0017 were collected from the water treatment system located at Staging Area 5S. Table A summarizes the samples collected. Solidified non-TSCA material from the staging areas was loaded into trucks and transported to the Ottawa County Farms Landfill in Coopersville, Michigan or the C&C Landfill in Marshall, Michigan for disposal; solidified TSCA material was transported to the Wayne County Landfill in Bellevue, Michigan for disposal.
- During the week of October 20, the KRSG continued excavation of Removal Area 13A and the Phase 2 Cofferdam Area, continued decommissioning and removal of Staging Area 5S, continued removal and decontamination of resuspension controls, continued installation of topsoil and seeding in newly exposed floodplain soils due to falling river elevations, continued restoration activities in Removal Area 13B, continued planting trees and shrubs that had been deferred from the spring to the fall due to species availability, and continued removal of the WCS. Six soil confirmation samples (TS20235 through TS20240) were collected from Removal Area 13A. The USEPA collected a split sample

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(APS-102108-44-SD/TS20235) and a duplicate (APS-102108-44-SD-DP/TS20235) of TS20235. Two surface water samples (TS30093 and TS30094) were collected from locations 300 feet downstream and 200 feet upstream, respectively, of Removal Area 13A for PCB analysis. A rinse blank (TS30095) was also collected. Six PCB wipe samples (RO-20-05, RO-170, RO-171, RO-199, RO-267, and RO-B3) were collected from six roll offs used to hold miscellaneous waste generated during the decommissioning of Staging Area 5S to ensure they were properly decontaminated prior to demobilizing from the site. One set of wastewater samples (W\_SA4N\_X\_0020) was collected from the water treatment system located at Staging Area 4N. Waste water samples W\_SA5S\_Influ\_0021, W\_SA5S\_MidA\_0018, and W\_SA5S\_EffluA\_0018 were collected from the water treatment system located at Staging Area 5S. Table A summarizes the samples collected. Solidified non-TSCA material from the staging areas was loaded into trucks and transported to the Ottawa County Farms Landfill in Coopersville, Michigan or the C&C Landfill in Marshall, Michigan for disposal, solidified TSCA material was transported to the Wayne County Landfill in Bellevue, Michigan for disposal.

- During the week of October 27, the KRSG continued excavation of Removal Area 13A, continued decommissioning and removal of Staging Area 5S, continued removal and decontamination of resuspension controls, continued installation of topsoil and seeding in newly exposed floodplain soils due to falling river elevations, continued restoration activities in Removal Area 13B, continued planting trees and shrubs that had been deferred from the spring to the fall due to species availability, and continued removal of the WCS. Eight soil confirmation samples (TS20241 through TS20248) were collected from Removal Area 13A. Two surface water samples (TS30096 and TS30097) were collected from locations 300 feet downstream and 200 feet upstream, respectively, of Removal Area 13A for PCB analysis. A rinse blank (TS30098) was also collected. A nine-part composite soil sample of the stockpiled material that was over-excavated from Removal Area 13A (TS10005) was collected and submitted for diesel range organics (DROs), gasoline range organics (GROs), target compound list (TCL) volatile organic compounds (VOCs), TCL semi-volatile organic compounds (SVOCs), PCBs, TCL pesticides, total organic carbon (TOC) and Resource Conservation and Recovery Act (RCRA) metal analysis. This over-excavated material will potentially be used as cover in upland priority areas. Two sets of wastewater samples (W\_SA4N\_X\_0021 and W\_SA4N\_X\_0022) and duplicate sample W\_SA4N\_Dup\_0004 were collected from the water treatment system located at Staging Area 4N. Waste water samples W\_SA5S\_Influ\_0022, W\_SA5S\_MidA\_0019, and W\_SA5S\_EffluA\_0019 were collected from the water treatment system located at Staging Area 5S. Table A summarizes the samples collected. Solidified non-TSCA material from the staging areas was loaded into trucks and transported to the Ottawa County Farms Landfill in Coopersville, Michigan or the C&C Landfill in Marshall, Michigan for disposal; solidified TSCA material was transported to the Wayne County Landfill in Bellevue, Michigan for disposal.
- As of October 31, approximately 70,000 cubic yards of material had been excavated from Removal Areas 1, 2A and 2B, 3A and 3B, 4A and 4B, 5, 6A and 6B, 7, 8, 9A, 9B, 10A, 10B, 11A, 11B, 12A, 12B, 13A, 13B, Mid-Channel Areas A, B, and C, the Phase 1 Cofferdam Area, the Phase 2 Cofferdam Area, Upland Areas 3A1, 3A2, 4A1, 6B1, 10B1, 11A1, and 12A1, and Islands 1, 2, and 3.

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**Laboratory Data Received During the Period**

- During the week of October 1, the KRSG received analytical data for soil confirmation samples TS20209 through TS20211 (collected in September), wastewater sample set W\_SA4N\_X\_0018 (collected in September) and wastewater samples W\_SA5S\_Influ\_0019, W\_SA5S\_MidA\_0017, W\_SA5S\_MidB\_0016, W\_SA5S\_EffluA\_0017, W\_SA5S\_EffluB\_0016, and W\_SA5S\_Dup\_0008
- During the week of October 6, the KRSG received analytical data for USEPA split samples APS-092908-41-SD/TS20202 and APS-093008-42-SD/TS20209 (both collected in September) and PCB wipe sample VT-67 (100908)
- During the week of October 13, the KRSG received analytical data for soil confirmation samples TS20212 through TS20230, USEPA split sample APS-10108-43-SD/TS20215, surface water samples TS30080 through TS30082 (collected in September), TS30083 through TS30085, wastewater sample set W\_SA4N\_X\_0019 and wastewater samples W\_SA5S\_Influ\_0020, W\_SA5S\_MidA\_0017, and W\_SA5S\_EffluA\_0017.
- During the week of October 20, the KRSG received analytical data for soil confirmation samples TS20231 through TS20240, wastewater samples W\_SA5S\_Influ\_0021, W\_SA5S\_MidA\_0018, and W\_SA5S\_EffluA\_0018 and PCB wipe samples VT-1 (101808), Frac255870 (101708), Frac253813 (101808), RO-20-05, RO-170, RO-171, RO-199, RO-267, and RO-B3.
- During the week of October 27, the KRSG received analytical data for soil confirmation samples TS20241 through TS20248, USEPA split sample APS-102108-44-SD/TS20235 and duplicate sample APS-102108-44-SD-DP/TS20235, DROs and GROs for soil reuse sample TS10005, surface water samples TS30086 through TS30088, wastewater sample sets W\_SA4N\_X\_0020 and W\_SA4N\_X\_0021, and wastewater samples W\_SA5S\_Influ\_0022, W\_SA5S\_MidA\_0019, and W\_SA5S\_EffluA\_0019.
- The KRSG is awaiting analytical results for surface water samples TS30089 through TS30098, wastewater sample set W\_SA4N\_X\_0022, duplicate sample W\_SA4N\_Dup\_0004 and soil reuse sample TS10005 (TCL VOCs, TCL SVOCs, PCBs, TCL pesticides, TOC and RCRA metals).

**Issues Encountered and Actions Taken**

- A PCB concentration of 12 milligrams per kilogram (mg/kg) was detected in soil sample TS20219, collected from Removal Area 13B, Grid 7 TSCA on October 10. An additional 6 inches of material was excavated and sample TS20230 was collected on October 14. A PCB concentration of 0.56 mg/kg was detected in the sample. No additional excavation is warranted.

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- PCBs were detected in the influent, mid-point, effluent, and duplicate samples collected from Staging Area 5S on October 1. This water was treated as a batch and was not discharged. According to Substantive Requirements Document (SRD) MIU990025, the carbon in both carbon vessels (on each side of the treatment system) must be replaced immediately if PCBs are detected in the mid-point samples. As such, no water was treated at Staging Area 5S until the carbon on both sides of the treatment system was replaced. During the downtime, water was trucked to Staging Area 4N for treatment. Since Staging Area 5S is scheduled to be decommissioned during October, new carbon was installed on the right side (A-side) of the treatment system during the week of October 6, and only that side of the treatment system will be utilized. The original batch of water was retreated and sampled prior to discharge (W\_SA5S\_Influ\_0020, W\_SA5S\_MidA\_0017, and W\_SA5S\_EffluA\_0017).

**Developments Anticipated During the Next Reporting Period**

- During the week of November 3, the KRSG is scheduled to continue excavation of Removal Area 13A, continue decommissioning of Staging Area 5S; continue to remove the WCS; continue planting trees and shrubs that had been deferred from the spring to the fall due to species availability; and continue loading and transporting solidified material to the appropriate landfill.
- During the week of November 10, the KRSG is scheduled to continue excavation of Removal Area 13A and the Phase 2 Cofferdam Area; continue to remove the WCS; continue removal of staging area 5S; begin installation of post-construction monitoring wells and staff gauges, and continue loading and transporting solidified material to the appropriate landfill.
- During the week of November 17, the KRSG is scheduled to continue excavation of Removal Area 13A and the Phase 2 Cofferdam Area; continue to remove the WCS; continue removal of staging area 5S; continue restoration activities in Removal Area 13A; host the monthly Stakeholder's Meeting; continue installation of post-construction monitoring wells and staff gauges, and continue loading and transporting solidified material to the appropriate landfill.
- During the week of November 24, the KRSG is scheduled to complete excavation of Removal Area 13A and the Phase 2 Cofferdam Area, begin removal of the Phase 2 Cofferdam; continue removal of the WCS; complete installation of the post-construction monitoring wells and staff gauges, and continue loading and transporting solidified material to the appropriate landfill.
- The KRSG will continue to submit the *Weekly Construction Report for the Plainwell TCRA* to USEPA and MDEQ in November.
- The KRSG will continue to submit copies of analytical data from TCRA sampling activities to USEPA in November.

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- Throughout November, the KRSG will, as necessary, continue to submit Subcontractor Qualification Notifications to USEPA, as required by Paragraph 11 of the TCRA AOC

**Kalamazoo River Study Group  
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site  
Former Plainwell Impoundment TCRA  
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**Table A — Summary of Samples Collected and Data Received in October 2008**

Sample ID	Sample Date	Data Received	Sample Delivery Group	Laboratory	Sample Location	Analysis Conducted	PCB Result	PCB Action Limit	Response Action
<b>Soil Confirmation Samples</b>									
<b>APS-092908-41-SD/TS20202</b>	<b>09/29/08</b>	<b>10/06/08</b>	<b>0809547</b>	<b>TriMatrix Laboratories</b>	<b>RA 13B, Grid 1 (BS) TSCA</b>	<b>PCBs</b>	<b>1.0 mg/kg</b>	<b>5 mg/kg</b>	<b>None</b>
TS20209 <sup>1</sup>	09/30/08	10/01/08	084055	KAR Labs	RA 13B, Grid 7 (BS)	PCBs	< 0.33 mg/kg	5 mg/kg	None
<b>APS-093008-42-SD/TS20209</b>	<b>09/30/08</b>	<b>10/06/08</b>	<b>0809553</b>	<b>TriMatrix Laboratories</b>	<b>RA 13B, Grid 7 (BS)</b>	<b>PCBs</b>	<b>0.22 mg/kg</b>	<b>5 mg/kg</b>	<b>None</b>
TS20210	09/30/08	10/01/08	084055	KAR Labs	RA 13B, Grid 6 (BS)	PCBs	0.48 mg/kg	5 mg/kg	None
TS20211					RA 13B, Grid 5 (BS)	PCBs	< 0.33 mg/kg	5 mg/kg	None
TS20212 [TS20213]					RA 13B, Grid 1 TSCA	PCBs [PCBs]	0.37 mg/kg [0.45 mg/kg]	5 mg/kg [5 mg/kg]	None [None]
TS20214	10/10/08	10/13/08	084268	KAR Labs	RA 13B, Grid 2 TSCA	PCBs	1.1 mg/kg	5 mg/kg	None
TS20215 <sup>1</sup>					RA 13B, Grid 3 TSCA	PCBs	2.4 mg/kg	5 mg/kg	None
<b>APS-10108-43-SD/TS20215</b>	<b>10/10/08</b>	<b>10/13/08</b>	<b>0810183</b>	<b>TriMatrix Laboratories</b>	<b>RA 13B, Grid 3 TSCA</b>	<b>PCBs</b>	<b>1.9 mg/kg</b>	<b>5 mg/kg</b>	<b>None</b>
TS20216	10/10/08	10/13/08	084268	KAR Labs	RA 13B, Grid 4 TSCA	PCBs	1.3 mg/kg	5 mg/kg	None
TS20217					RA 13B, Grid 5 TSCA	PCBs	< 0.33 mg/kg	5 mg/kg	None
TS20218					RA 13B, Grid 6 TSCA	PCBs	3.3 mg/kg	5 mg/kg	None
TS20219					RA 13B, Grid 7 TSCA	PCBs	12 mg/kg	5 mg/kg	Excavate additional 6" material and resample (TS20230)

See Notes on Page 10

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**Table A — Summary of Samples Collected and Data Received in October 2008**

Sample ID	Sample Date	Data Received	Sample Delivery Group	Laboratory	Sample Location	Analysis Conducted	PCB Result	PCB Action Limit	Response Action
<b>Soil Confirmation Samples (cont.)</b>									
TS20220	10/13/08	10/14/08	083286	KAR Labs	RA 13B, Grid 5	PCBs	< 0.33 mg/kg	5 mg/kg	None
TS20221					RA 13B, Grid 6	PCBs	< 0.33 mg/kg	5 mg/kg	None
TS20222					RA 13B, Grid 4	PCBs	0.41 mg/kg	5 mg/kg	None
TS20223					RA 13B, Grid 7	PCBs	0.49 mg/kg	5 mg/kg	None
TS20224					RA 13B, Grid 1	PCBs	< 0.33 mg/kg	5 mg/kg	None
TS20225	10/14/08	10/15/08	084318	KAR Labs	RA 13A, Grid 1 (BS)	PCBs	< 0.33 mg/kg	5 mg/kg	None
TS20226					RA 13A, Grid 2 (BS)	PCBs	< 0.33 mg/kg	5 mg/kg	None
TS20227					RA 13A, Grid 3 (BS)	PCBs	< 0.33 mg/kg	5 mg/kg	None
TS20228					RA 13A, Grid 4 (BS)	PCBs	< 0.33 mg/kg	5 mg/kg	None
TS20229					RA 13A, Grid 5 (BS)	PCBs	< 0.33 mg/kg	5 mg/kg	None
TS20230					RA 13B, Grid 7 TSCA	PCBs	0.56 mg/kg	5 mg/kg	None
TS20231	10/17/08	10/20/08	084403	KAR Labs	RA 13A, Grid 6 (BS)	PCBs	< 0.33 mg/kg	5 mg/kg	None
TS20232 [TS20233]					RA 13A, Grid 7 (BS)	PCBs [PCBs]	1.7 mg/kg [1.2 mg/kg]	5 mg/kg [5 mg/kg]	None [None]
TS20234					RA 13A, Grid 8 (BS)	PCBs	< 0.33 mg/kg	5 mg/kg	None
TS20235 <sup>1</sup>	10/21/08	10/22/08	084418	KAR Labs	RA 13A, Grid 1A	PCBs	< 0.33 mg/kg	5 mg/kg	None
APS-102108-44-SD/TS20235	10/21/08	10/28/08	0810432	TriMatrix Laboratories	RA 13A, Grid 1A	PCBs	0.11 mg/kg J	5 mg/kg	None
[APS-102108-44-SD-DP/TS20235]						[PCBs]	[0.10 mg/kg J]	[5 mg/kg]	[None]

See Notes on Page 10

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**Table A — Summary of Samples Collected and Data Received in October 2008**

Sample ID	Sample Date	Data Received	Sample Delivery Group	Laboratory	Sample Location	Analysis Conducted	PCB Result	PCB Action Limit	Response Action
Soil Confirmation Samples (cont.)									
TS20236	10/21/08	10/22/08	084418	KAR Labs	RA 13A, Grd 1A	PCBs	< 0.33 mg/kg	5 mg/kg	None
TS20237	10/23/08	10/24/08	084467	KAR Labs	RA 13A, Grd 2A	PCBs	< 0.33 mg/kg	5 mg/kg	None
TS20238					RA 13A, Grd 2B	PCBs	< 0.33 mg/kg	5 mg/kg	None
TS20239					RA 13A, Grd 3A	PCBs	< 0.33 mg/kg	5 mg/kg	None
TS20240					RA 13A, Grd 3B	PCBs	< 0.33 mg/kg	5 mg/kg	None
TS20241	10/27/08	10/28/08	084516	KAR Labs	RA 13A, Grd 6B TSCA	PCBs	2.0 mg/kg	5 mg/kg	None
TS20242					RA 13A, Grd 5B TSCA	PCBs	0.55 mg/kg	5 mg/kg	None
TS20243	10/28/08				10/29/08	084529	KAR Labs	RA 13A, Grd 4B	PCBs
TS20244		RA 13A, Grd 4A	PCBs	0.44 mg/kg				5 mg/kg	None
TS20245	10/29/08	10/30/08	084559	KAR Labs	RA 13A, Grd 8C	PCBs	< 0.33 mg/kg	5 mg/kg	None
TS20246					RA 13A, Grd 7A TSCA	PCBs	0.52 mg/kg	5 mg/kg	None
TS20247					RA 13A, Grd 7C	PCBs	< 0.33 mg/kg	5 mg/kg	None
TS20248					RA 13A, Grd 7B TSCA	PCBs	< 0.33 mg/kg	5 mg/kg	None
Soil Reuse Sample									
TS10005	10/29/08	10/31/08 (KAR) and NR (TAL)	084568 (KAR) and NR (TAL)	KAR Labs and TAL	9-part composite sample from over-excavated floodplain material in Removal Area 13A to potentially be used as cover in upland priority areas.	PCBs, TCL VOCs, TCL SVOCs, RCRA Metals, DROs, GROs, TOC, and TCL Pesticides	-	-	None as of 10/31/08 Only DROs and GROs received <sup>2</sup>

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<b>Surface Water Samples</b>									
TS30080	09/26/08	10/14/08	TCRA85_SDSP	TAL	300' downstream Mid-Channel Area A	PCBs	< 0.048 µg/L	None	None
TS30081					200' upstream Mid-Channel Area A	PCBs	< 0.051 µg/L	None	None
TS30082					Rinse Blank	PCBs	< 0.050 µg/L	None	None
TS30083	10/02/08	10/16/08	TCRA87_SDSP	TAL	300' downstream Mid-Channel Area A	PCBs	< 0.058 µg/L	None	None
TS30084					200' upstream Mid-Channel Area A	PCBs	< 0.055 µg/L	None	None
TS30085					Rinse Blank	PCBs	< 0.053 µg/L	None	None
TS30086	10/09/08	10/28/08	TCRA89_SDSP	TAL	300' downstream Mid-Channel Area A	PCBs	< 0.049 µg/L	None	None
TS30087					200' upstream Mid-Channel Area A	PCBs	< 0.049 µg/L	None	None
TS30088					Rinse Blank	PCBs	< 0.049 µg/L	None	None
TS30092 [TS30089]	10/15/08	NR	NR	TAL	300' downstream RA 13A	PCBs [PCBs]	- [-]	- [-]	- [-]
TS30090					200' upstream of RA 13A	PCBs	-	-	-
TS30091					Rinse Blank	PCBs	-	-	-
TS30093	10/23/08	NR	NR	TAL	300' downstream RA 13A	PCBs	-	-	-
TS30094					200' upstream of RA 13A	PCBs	-	-	-
TS30095					Rinse Blank	PCBs	-	-	-
TS30096	10/30/08	NR	NR	TAL	300' downstream RA 13A	PCBs	-	-	-
TS30097					200' upstream of RA 13A	PCBs	-	-	-
TS30098					Rinse Blank	PCBs	-	-	-

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<b>Wastewater Samples</b>									
W_SA4N_Influ_0018	09/30/08	10/01/08	084071	KAR Labs	Staging Area 4N, Discharge 18, influent sample	PCBs	0.4 µg/L	No Action Limit	None
W_SA4N_MidA_0018					Staging Area 4N, Discharge 18, midpoint sample, right side	PCBs	< 0.1 µg/L	No Action Limit	None
W_SA4N_EffluA_0018					Staging Area 4N, Discharge 18, effluent sample, right side	PCBs, TSS	< 0.1 µg/L	0.2 µg/L per discharge, Monthly Average of 2.6 x 10-5 µg/L	None TSS = <4 mg/L, Action Limit = 45 mg/L
W_SA4N_MidB_0018					Staging Area 4N, Discharge 18, midpoint sample, left side	PCBs	< 0.1 µg/L	No Action Limit	None
W_SA4N_EffluB_0018					Staging Area 4N, Discharge 18, effluent sample, left side	PCBs, TSS	< 0.1 µg/L	0.2 µg/L per discharge, Monthly Average of 2.6 x 10-5 µg/L	None TSS = <4 mg/L, Action Limit = 45 mg/L
W_SA4N_Influ_0019	10/15/08	10/16/08	084337	KAR Labs	Staging Area 4N, Discharge 19, influent sample	PCBs	0.2 µg/L	No Action Limit	None
W_SA4N_MidA_0019					Staging Area 4N, Discharge 19, midpoint sample, right side	PCBs	< 0.1 µg/L	No Action Limit	None
W_SA4N_EffluA_0019					Staging Area 4N, Discharge 19, effluent sample, right side	PCBs, TSS, P	< 0.1 µg/L	0.2 µg/L per discharge, Monthly Average of 2.6 x 10-5 µg/L	None TSS = <4 mg/L, Action Limit = 45 mg/L, P=0.09 mg/L, No Action Limit
W_SA4N_MidB_0019					Staging Area 4N, Discharge 19, midpoint sample, left side	PCBs	< 0.1 µg/L	No Action Limit	None
W_SA4N_EffluB_0019					Staging Area 4N, Discharge 19, effluent sample, left side	PCBs, TSS, P	< 0.1 µg/L	0.2 µg/L per discharge, Monthly Average of 2.6 x 10-5 µg/L	None TSS = <4 mg/L, Action Limit = 45 mg/L, P=0.08 mg/L, No Action Limit

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<b>Wastewater Samples (cont.)</b>									
W_SA4N_Influ_0020	10/24/08	10/27/08	084337	KAR Labs	Staging Area 4N, Discharge 20, influent sample	PCBs	0.2 µg/L	No Action Limit	None
W_SA4N_MidA_0020					Staging Area 4N, Discharge 20, midpoint sample, right side	PCBs	< 0.1 µg/L	No Action Limit	None
W_SA4N_EffluA_0020					Staging Area 4N, Discharge 20, effluent sample, right side	PCBs, TSS	< 0.1 µg/L	0.2 µg/L per discharge, Monthly Average of 2.6 x 10-5 µg/L	None TSS = <4 mg/L, Action Limit = 45 mg/L
W_SA4N_MidB_0020					Staging Area 4N, Discharge 20, midpoint sample, left side	PCBs	< 0.1 µg/L	No Action Limit	None
W_SA4N_EffluB_0020					Staging Area 4N, Discharge 20, effluent sample, left side	PCBs, TSS	< 0.1 µg/L	0.2 µg/L per discharge, Monthly Average of 2.6 x 10-5 µg/L	None TSS = <4 mg/L, Action Limit = 45 mg/L
W_SA4N_Influ_0021	10/28/08	10/29/08	084529	KAR Labs	Staging Area 4N, discharge 21, influent sample	PCBs	< 0.1 µg/L	No Action Limit	None
W_SA4N_MidA_0021					Staging Area 4N, discharge 21, midpoint sample, right side	PCBs	< 0.1 µg/L	No Action Limit	None
W_SA4N_EffluA_0021					Staging Area 4N, discharge 21, effluent sample, right side	PCBs, TSS	< 0.1 µg/L	0.2 µg/L per discharge, Monthly Average of 2.6 x 10-5 µg/L	None TSS = <4 mg/L, Action Limit = 45 mg/L
W_SA4N_MidB_0021					Staging Area 4N, discharge 21, midpoint sample, left side	PCBs	< 0.1 µg/L	No Action Limit	None
W_SA4N_EffluB_0021					Staging Area 4N, discharge 21, effluent sample, left side	PCBs, TSS	< 0.1 µg/L	0.2 µg/L per discharge, Monthly Average of 2.6 x 10-5 µg/L	None TSS = <4 mg/L, Action Limit = 45 mg/L

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<b>Wastewater Samples (cont.)</b>									
W_SA4N_Influ_0022	10/31/08	NR	NR	KAR Labs	Staging Area 4N, discharge 22, influent sample	PCBs	< 0.1 µg/L	No Action Limit	None
W_SA4N_MidA_0022					Staging Area 4N, discharge 22, midpoint sample, right side	PCBs	< 0.1 µg/L	No Action Limit	None
W_SA4N_EffluA_0022					Staging Area 4N, discharge 22, effluent sample, right side	PCBs, TSS	< 0.1 µg/L	0.2 µg/L per discharge, Monthly Average of 2.6 x 10 <sup>-5</sup> µg/L	None TSS = <4 mg/L, Action Limit = 45 mg/L
[W_SA4N_Dup_0004]						[PCBs, TSS]	[-]	[-]	[-]
W_SA4N_MidB_0022					Staging Area 4N, discharge 22, midpoint sample, left side	PCBs	< 0.1 µg/L	No Action Limit	None
W_SA4N_EffluB_0022					Staging Area 4N, discharge 22, effluent sample, left side	PCBs, TSS	-	-	-
W_SA5S_Influ_0019	10/01/08	10/02/08	084088	KAR Labs	Staging Area 5S, Discharge 19, influent sample	PCBs	1.3 µg/L	No Action Limit	None
W_SA5S_MidA_0017					Staging Area 5S, Discharge 19, midpoint sample, right side	PCBs	0.4 µg/L	No Action Limit	Change carbon
W_SA5S_EffluA_0017					Staging Area 5S, Discharge 19, effluent sample, right side	PCBs, TSS, P	0.3 µg/L	0.2 µg/L per discharge, Monthly Average of 2.6 x 10 <sup>-5</sup> µg/L	Retreat water before discharge TSS = <4 mg/L, Action Limit = 45 mg/L, P=0.68 mg/L, No Action Limit
[W_SA5S_Dup_0008]						[PCBs, TSS, P]	[0.3 µg/L]	[0.2 µg/L per discharge, Monthly Average of 2.6 x 10 <sup>-5</sup> µg/L]	[None TSS = <4 mg/L, Action Limit = 45 mg/L, P=0.67 mg/L, No Action Limit]

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<b>Wastewater Samples (cont.)</b>									
W_SA5S_MidB_0016	10/01/08 (cont )	10/02/08 (cont )	084088 (cont )	KAR Labs (cont )	Staging Area 5S, Discharge 19, midpoint sample, left side	PCBs	0.5 µg/L	No Action Limit	Change carbon
W_SA5S_EffluB_0016					Staging Area 5S, Discharge 19, effluent sample, left side	PCBs, TSS, P	0.2 µg/L	0.2 µg/L per discharge, Monthly Average of 2.6 x 10 <sup>-5</sup> µg/L	Retreat water before discharge TSS = <4 mg/L, Action Limit = 45 mg/L, P=0.49 mg/L, No Action Limit
W_SA5S_Influ_0020	10/14/08	10/15/08	084317	KAR Labs	Staging Area 5S, Discharge 20, influent sample	PCBs	< 0.1 µg/L	No Action Limit	None
W_SA5S_MidA_0017					Staging Area 5S, Discharge 20, midpoint sample, right side	PCBs	< 0.1 µg/L	No Action Limit	None
W_SA5S_EffluA_0017					Staging Area 5S, Discharge 20, effluent sample, right side	PCBs, TSS	< 0.1 µg/L	0.2 µg/L per discharge, Monthly Average of 2.6 x 10 <sup>-5</sup> µg/L	None TSS = <4 mg/L, Action Limit = 45 mg/L
W_SA5S_Influ_0021	10/20/08	10/21/08	084405	KAR Labs	Staging Area 5S, Discharge 21, influent sample	PCBs	< 0.1 µg/L	No Action Limit	None
W_SA5S_MidA_0018					Staging Area 5S, Discharge 21, midpoint sample, right side	PCBs	< 0.1 µg/L	No Action Limit	None
W_SA5S_EffluA_0018					Staging Area 5S, Discharge 21, effluent sample, right side	PCBs, TSS, P	< 0.1 µg/L	0.2 µg/L per discharge, Monthly Average of 2.6 x 10 <sup>-5</sup> µg/L	None TSS = <4 mg/L, Action Limit = 45 mg/L, P=0.23 mg/L, No Action Limit

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Wastewater Samples (cont.)									
W_SA5S_Influ_0022	10/29/08	10/30/08	084497	KAR Labs	Staging Area 5S, Discharge 22, influent sample	PCBs	0.1 µg/L	No Action Limit	None
W_SA5S_MidA_0019					Staging Area 5S, Discharge 22, midpoint sample, right side	PCBs	< 0.1 µg/L	No Action Limit	None
W_SA5S_EffluA_0019					Staging Area 5S, Discharge 22, effluent sample, right side	PCBs, TSS	< 0.1 µg/L	0.2 µg/L per discharge, Monthly Average of 2.6 x 10 <sup>-5</sup> µg/L	None TSS = <4 mg/L, Action Limit = 45 mg/L
PCB Wipe Sample									
VT-67 (100908)	10/09/08	10/10/08	084248	KAR Labs	Wipe sample from vacuum truck used to remove spent carbon from Staging Area 5S	PCBs	< 0.1 µg per 100 cm <sup>2</sup>	10 µg per 100 cm <sup>2,3</sup>	None
Frac255870 (101708)	10/17/08	10/20/08	084337	KAR Labs	Wipe sample from frac tank used to hold untreated water at Staging Area 5S	PCBs	< 0.1 µg per 100 cm <sup>2</sup>	10 µg per 100 cm <sup>2,3</sup>	None
Frac253813 (101808)	10/18/08	10/20/08	084404	KAR Labs	Wipe sample from frac tank used to hold untreated water at Staging Area 5S	PCBs	< 0.1 µg per 100 cm <sup>2</sup>	10 µg per 100 cm <sup>2,3</sup>	None
VT-1 (101808)					Wipe sample from vacuum truck used to transport untreated water from Staging Area 5S	PCBs	0.2 µg per 100 cm <sup>2</sup>	10 µg per 100 cm <sup>2,3</sup>	None

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<b>PCB Wipe Sample (cont.)</b>									
RO-20-05	10/23/08	10/24/08	084467	KAR Labs	Wipe samples from the roll offs used to hold miscellaneous waste from the decommissioning of Staging Area 5S	PCBs	< 0.1 µg per 100 cm <sup>2</sup>	10 µg per 100 cm <sup>2</sup>	None
RO-170							< 0.1 µg per 100 cm <sup>2</sup>	10 µg per 100 cm <sup>2</sup>	None
RO-171							< 0.1 µg per 100 cm <sup>2</sup>	10 µg per 100 cm <sup>2</sup>	None
RO-199							< 0.1 µg per 100 cm <sup>2</sup>	10 µg per 100 cm <sup>2</sup>	None
RO-267							< 0.1 µg per 100 cm <sup>2</sup>	10 µg per 100 cm <sup>2</sup>	None
RO-B3							< 0.1 µg per 100 cm <sup>2</sup>	10 µg per 100 cm <sup>2</sup>	None

**Notes:**

- 1 - Split sample collected by USEPA
- 2 - Analytical results compared to applicable Part 201 cleanup criteria and Part 213 RBSLs provided in MDEQ's RRD Operational Memorandum No. 1 (Table 2, Column #19, Direct Contact Criteria & RBSLs)
- 3 - The decontamination standard for non-porous materials previously in contact with PCB-containing liquid according to Federal Regulations (Title 40, Chapter 1, Subchapter R, Part 761.79-3)
- J - The compound was positively identified, however, the associated numerical value is an estimated concentration only
- \* USEPA split samples are shown in bold and italicized font
- \* Duplicate samples are shown in brackets
- \* Analytical results have not been validated

BS - bank sample  
DRO - diesel range organic  
GRO - gasoline range organic  
MDEQ - Michigan Dept. of Environmental Quality  
NR - not received  
P - phosphorus  
PCBs - polychlorinated biphenyls  
RA - Removal Area  
RBSL - Risk Based Screening Level  
RCRA - Resource Conservation and Recovery Act  
RRD - Remediation Redevelopment Division  
VOCs - semivolatile organic compounds

TAL - TestAmerica Laboratories  
TCL - target compound list  
TOC - Total Organic Carbon  
TSCA - Sample collected from portion of sampling grid with PCB concentrations greater than 50 mg/kg prior to excavation  
TSS - total suspended solids  
VOCs - volatile organic compounds  
cm<sup>2</sup> - square centimeters  
mg/kg - milligrams per kilogram  
mg/L - milligrams per liter  
µg/L - micrograms per liter